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GENESEE FARMER.

SATURDAY, MARCH 11, 1837.

Arable Soils.

A knowledge of the earths that enter into the composition and most modify the soil he cultivates, is necessary to every farmer; as such knowledge greatly facilitates its proper management, both in the crop to be raised, the manure to be applied, and the time of its application. Fortunately for the farmer, the kinds of earth that form the best soils for cultivation are few in number, three being sufficient for every valuable purpose, and more being frequently found injurious rather than beneficial to the purposes of the agriculturist. These three earths are, *Silex*, which is the basis of all sand, and is found pure in rock chrystal; *Lime*, which is the basis of all the limestone rocks, marbles, and gypsum, and is found nearly pure in Iceland spar and the primitive marble; and *Alumine*, which is the base of all clayey soils, and the great variety of clay rocks, and is found nearly pure in the best specimens of the alum of commerce.

Of these three substances, soils devoted to agriculture are nearly always formed, though they exist in very different proportions, and are always more or less mingled with decomposed animal or vegetable matter. Vegetation will indeed take place in either of these substances, if water and the proper degree of warmth be present, but it will be very feeble and inefficient. On the contrary, when combined in proper proportions, and the necessary quantity of decayed animal or vegetable matter be present, the growth of plants will be vigorous, and their perfection, if not obstructed by other causes, certain.

To ascertain the proper proportion of silica, lime and alumina, that should be united to form the best soils, chemists have very naturally resorted to an analysis of the earth from those sections of the world, and those particular places most celebrated for the quantity and quality of their products. These examinations have been made by different individuals, but the general results agree so nearly, as to inspire much greater confidence in their accuracy, than if they were discordant and contradictory. To show the composition of some of the best arable soils, the quantity of sand, lime and clay, as well as the nature of the other substances combined in such lands, we have selected some instances of analysis, from the best authorities on the subject.

Bergmann found that one of the most fertile soils in Swedon contained in 100 parts—

Coarse Silex,	30 parts.
Silica,	26
Alumina,	14
Carbonate of lime,	30

In a specimen analyzed by Giobert of Turin, these three earths were in the following proportions:

Silica,	77 to 79
Alumina,	9 — 14
Lime,	5 — 12

An excellent soil for wheat in the county of Middlesex, England, gave the following proportions of these principal earths, finely divided:

Carbonate of lime,	28
Silica,	32
Alumina,	28
Animal and vegetable matter,	11

Count Chaptal analyzed a very fertile alluvion on the Loire, 375 miles from its source, and found it composed of—

Silicious gravel,	32
Calcareous gravel,	11
Silica,	10
Carbonate of lime,	19
Alumina,	21
Vegetable remains,	7

A specimen of soil from Touraine, celebrated for the production of hemp, gave of—

Coarse gravel,	49
Carbonate of lime,	25
Silica,	17
Alumina,	16

In nearly all cultivated soils in good tilth, the quantity of animal and vegetable matter is nearly the same, or about one tenth of the whole. These examples, and a great number of examinations of soil by Davy, Bergmann, and Chaptal, show about the same result, exhibit conclusively the proportions in which these three principal earths, of lime, clay and sand, should be mixed in order to produce the best soils for cultivation. Where this is well understood, a following out of the principles here laid down in bringing the soil by a proper mixture of these earths, to a right proportion, will ensure a quality of earth of the best and most valuable kind. If either of these earths exist in too great proportions, the land will be comparatively poor, and its power of vegetation lessened.

For instance, land is found to contain too much calcareous matter, (a very rare fault however by the way,) the difficulty can be remedied most effectually by an application of argillaceous or clayey marl, a substance principally composed of clay and sand. Land which contains too much silex will be benefitted by the application of calcareous marl, or marl composed of lime, clay, and sand; while soils in which clay predominates, need the addition of sand and gravel; if calcareous gravel or sand, so much the better. In soils where but one of these earths is present there can be but little or no vegetation, and their fertility increases exactly in proportion to their proper mixture.

In an arable soil it is necessary, whatever may be its constituents, that it should not be too fine. In the language of Chaptal, good soils "have a constant tendency to become pulverized, and at length by frequent tilling, by the action of salts, manures and frosts, they are reduced to so fine a powder, as to cease to be productive. Rain falling upon ground in this impalpable state renders it perfect mud, which, when exposed to heat, becomes so hard, that the air cannot penetrate it, nor the tender fibres of plants force their way into it;" and Davy has observed that all soils composed of nineteen-twentieths of impalpable matter, are completely barren. Barnyard manure will correct this state of things only for a short time; the complete remedy is the application of sand and gravel, which restores it to fertility.

Soils are the most liable to become dry and hard in which alumina predominates; and as a considerable part of Western New-York is based on clay slate, which when uncovered to the air, and exposed to the action of rain and frost, speedily falls to powder, of which the base is alumina, there is a continual tendency in such soils to decrease in fertility, a tendency which the application of manure alone is not able to counteract. Here the remedy is plain, and the addition of a proper quantity of sand would be an effectual barrier to consolidation. It is to this tendency in aluminous soils to consolidate, that we so frequently hear farmers who cultivate lands inclining to clay, complain that their wheat freezes out much more than it formerly did. Lands in which silicious or calcareous matter abounds, rarely suffer in this way, as where these substances exist sand and gravel are in sufficient quantities to prevent consolidation. If such soils suffer it is from the want of alumina, which leaves them too porous to retain moisture, or derive the full benefit of manures.

Where earth is composed of clay and fine sand, if the former amounts to one half or more, it is fit for brick or earthen ware, but not for cultivation; and where the alumina amounts to one fortieth part in a hundred, it has the effect of rendering the soil so sterile as to be unfit for agriculture. A great variety of experiments were made by Tillet of Paris, in the formation of artificial soils, and he found that the alumina if it greatly exceeded the other ingredients had a very unfavorable effect. The most fertile mixture produced was composed of sand or silica 46 parts, alumina 16 parts, and carbonate of lime 37 parts.

It would be no more reasonable to expect that these three earths, so essential to the productiveness of soils, should enter largely into the formation of vegetables grown upon them. That such is the fact has been abundantly proved by the experiments of Bergmann and Ruckert; and what is more curious still, these substances are found with few exceptions, in about the same proportions in which they exist in the best natural soils. In the analysis of different plants and seeds by these chemists, it was found that 100 parts of ashes, made from the following substances, well leached, and consequently freed from all their salts and soluble matter, yielded in

	Silica,	Lime,	and Alumina.
Ashes of wheat,	48	37	15
of oats,	68	26	6
of barley,	69	16	15
of rye,	63	21	16
of potatoes,	4	66	30
of red clover,	37	33	30

These facts in relation to soils and their productions are of great consequence to the farmer, and if borne in mind, would not only greatly assist the purchaser of farms in making good selections, but also materially aid the cultivator in ameliorating and improving such lands as are already subjected to culture. Nothing is scarcely more easy than to ascertain whether sand or clay or lime preponderates in a soil; and whether the circumstances of strata and position are such that the increase or diminution of one or the other may be confidently expected by the operations of time or the process of cultivation.

The analysis of soils has hitherto made little progress in this country, and farmers in general know little of the soils they cultivate, and the reasons why some are fertile and the others sterile, when in general appearance they are much the same. We think we are justified in expecting much, on this part of chemical agriculture, from the contemplated survey of the state, as it is one which can scarcely fail to claim the attention of the scientific men to whom the survey is confided. The farmer cannot too thoroughly understand the nature of the soil he cultivates, and any measures which shall facilitate the acquisition of the desired knowledge, should be hailed with general satisfaction.

Work for March.

March is a month in which the animals on a farm require more than ordinary attention and care. Perhaps the months of March and April witness more loss in the flocks and herds of the farmer than all the rest of the year; certainly this is the case where they are not attended to as they then should be. The farmer should never undertake to winter over more animals than he can keep well. There is a degree of criminality, not to speak of the unthriftiness of such a proceeding, in half starving and reducing to the extreme of suffering, animals which we should protect and feed. The best of the hay should always be reserved for the latter part of the winter and spring; and it should then be fed to them in such a manner as that they may receive its full benefits. Cows should not be allowed to stroll about in the snow and storm, but unless in fine weather should be housed, and if near calving should daily have a mess of wet bran, half a bushel of turneps, carrots or other green food, or

some extra feed that there may be milk and strength when most wanted. Farmers frequently complain that ewes give no milk, and of consequence their lambs mostly die, or receive such a check as scarcely to recover it during their first summer. Can this be wondered at when their sheep have no water during winter, but a scanty supply of dry hay, and when spring comes not a turnep, or a particle of green food, till the tardy grass appears. Plenty of rowen or good clover hay, and a daily supply of sliced roots would in most cases save the farmer his lambs, and prevent the shower of curses which many, rather than take the blame to themselves, are in the habit of pouring on the unoffending merinos. If you want profit from cows or sheep, see that you keep them well.

Frozen Potatoes.

As it is probable from the severity of the cold, and the small quantity of snow, that many potatoes buried in the fields, if not those in cellars, will be frozen, it may be well to give at this time the methods recommended by the celebrated agriculturist Dallas, in the French publication Bibliotheque Universalle. Mr. Dallas considers them in three states: first, when they are slightly touched by frost; second, when the outer portion of their substance is frozen; and third, when they are frozen throughout.

In the first case he says nothing more is necessary than to sprinkle the potatoes with lime to absorb the water formed under the skin, which unless done will speedily occasion their complete decomposition. In the second instance he causes the potato to be pared, and thrown for some hours into water slightly salted. When potatoes are completely frozen he recommends their distillation, [which we do not,] as in that state they yield a spiritous liquor resembling the best rum, and affording more alcohol, and of a better quality than could be obtained before the roots had been submitted to the action of the frost.

Instead of distilling, as recommended by Mr. Dallas, the thoroughly frozen potato should be boiled, and mixed with bran or meal, as food for swine or cattle.

Agricultural Societies.

We perceive that an Agricultural Society has been formed in Chautauque county, and we learn that others are in contemplation in Western New-York. We have not seen a list of its officers or the Constitution of the Society, but find its By-Laws in the Jamestown Journal, which we copy, as they may afford useful hints to those who are about forming similar Societies.

BY-LAWS

Of the Chautauque County Agricultural Society.

Art. 1. At the annual meeting of the society, standing Committees on Agriculture, Manufactures, and Domestic Animals, shall be chosen by ballot, each committee to consist of three members: the first named of each committee to be chairman thereof, and in case of any vacancy by death, resignation or otherwise, said vacancy shall be filled by the Executive Committee, to serve the remainder of the year.

2. The general administration of the affairs of the society are committed and entrusted to an executive committee, to consist of the President, the Vice President, the Treasurer, Corresponding and Recording Secretaries and the chairman of the three standing committees on agriculture, manufactures, and domestic animals. The executive committee shall meet at the court-house in Mayville, statedly on the first Wednesday of January, March and September of each year. And the president may convene the committee at other times by giving the members eight day's previous notice, either in writing or by a notice to that effect to be inserted in a newspaper printed in the county. All the doings of the executive committee shall be minuted at the time of meeting in a book of record, belonging specially to this committee, by the recording secretary, who shall keep on files all plans or proposals communicated at their meetings. Four members shall constitute a quorum for business of the executive committee. The President shall be ex-officio chairman of the executive committee and in his absence a chairman pro tempore shall be appointed.

3. The society may admit honorary members, who shall be recommended by the executive committee on account of donations to the society or reasons specified; and the President of the society on retiring from office may be honored by the voice of the society with that mark of distinction.

4. The members of the society (except honorary members) shall pay the sum of one dollar each per annum to the treasurer of the society for the use thereof; this tax shall be considered due and payable at the annual meeting in each year. Any person may become a member of this society by signing the constitution and paying one dollar for the use and benefit of the society.

5. At the annual meeting of the society the president shall cause to be presented to the society the yearly accounts of the Treasurer, a general list of the members of the society, and a list of those who have not paid their annual contribution, and in case any member shall have been in arrears more than one year (provided payment has been demanded of him personally by the Treasurer, or collector by him appointed) such member shall be considered no longer a member of the society, and the same shall be entered on the book of record.

6. A quorum for business of the society, shall consist of at least twelve members, including the president (or one of the vice presidents) and the chairman of one at least of the standing committees, and three at least of the directors.

7. It shall be the duty of the directors to superintend the concerns of the society in their respective towns, to correspond with the corresponding secretary, and to receive and distribute all seeds, plants, animals, books, &c. which may be committed to them for distribution among the members in their respective towns.

8. There shall be a committee of accounts, to consist of three members, which shall be chosen by the president from among the members of the exetive committee annually. It shall be the special duty of this committee to receive, examine and admit all claims on the society, and if just to certify them, the which certificate, after having been countersigned by the president, shall be a voucher for payment by the treasurer.

9. The executive committee shall appoint the time for the annual meeting of the society for the annual Fair, and shall decide what premiums shall be awarded by the society in each year; and the president shall give notice thereof in one or more of the newspapers printed in the county by the first Wednesday in April in each year.

10. The premiums proposed by the society shall be awarded in the following manner: Those on agriculture by a viewing committee, consisting of five persons, any three of whom shall be a quorum to transact the business thereof; those on manufactures and domestic animals, by awarding committees, to consist each of seven persons any five of whom shall he a quorum to transact the business thereof; those on manufactures and domestic animals, by awarding committees, to consist each of seven persons, any five of whom shall be a quorum to transact the business assigned to them. These committees shall be chosen annually by the executive committee; but no person who is a member of the standing committees of agriculture, manufactures or domestic animals, can be appointed on the viewing and awarding committees of the same department except the chairman of each committee.

11. The premiums awarded by the society shall be promulgated and delivered on the day of the annual Fair; and no premium shall be delivered but to the person to whom it shall be awarded at the time of promulgation—if not present the premium will revert to the society. No excuse shall be admitted, except for severe sickness, or such unavoidable hindrance as the executive committee may judge admissible at their next meeting; and no premiums shall hereafter be awarded without competition, unless the committee of awards shall deem it so meritorious as to be entitled to a premium notwithstanding there shall have been no competition. Any application for premiums by persons not being members of this society, must be made to the executive committee.

12. If any person shall attempt to obtain any premium by fraud or by offering any article as of domestic manufacture, which was in whole or in part manufactured in a factory, or by men, with the exception of carding, coloring, or dressing, or which was manufactured out of this county, or shall offer any article clandestinely not belonging to him, or to her, or any article that may before have received a premium (animals not having attained their growth excepted) such person, if a member, shall be forever after expelled from the society—or if a female, or a person not a member, he or she shall be forever thereafter precluded from receiving any premium from the society, and their names entered on the records of the society and of the executive committee.

13. No person shall be permitted to vote on any question where his private right is immediately concerned, distinct from the general interests of the society.

Timothy Judson, *Chairman.*
J. B. Burrows, *Secretary.*

Dutton Corn.

Northampton, January 18th, 1837.

Judge Buel—*Dear Sir:* The following is the method of culture, and result of the seed corn purchased of you last autumn, which, if you think proper, you are at liberty to give a place in the Cultivator. The variety is the twelve rowed early Dutton, or Buel corn, and is the best with which I am acquainted, particularly for latitudes north of 40°, on account of its early maturity, which is, I should say, two weeks earlier than the common or eight rowed kind. Out of several acres of the latter, planted the last season, I had not a bushel of sound corn, it being destroyed by the early frosts, while the Dutton was ripened and harvested on the 20th September, and did not give more than 2 per cent of soft corn. In the preparation of, the method of culture, &c. I pursued the course frequently recommended by you; but was, through the whole process, exceedingly annoyed in contending with old prejudices and practices of laborers and others, who often rebelled, and were disposed to place themselves conservators over me, in spite of all resistance on my part. If their prophecies were to prove true, my corn would have been seven times blasted. Grave doubts were expressed as to the advantage of the roller, and in the preparation of the seed: "whoever heard of rolling corn in *hot* tar? It will be scalded, ruined, and never come up." It *all* came up, however, and why? Because, being of the early variety, it was well ripened the preceding backward season, the reverse of which was much complained of in the common kind. Then, again, "it was too thick—depend upon it, sir, when you come to look for ears, you will find nothing but stalks; two feet and a half! four stalks in a hill! it is entirely too much—it will cover the ground and you will get nothing." The cultivator, however, was allowed to be "a grand thing," and clean weeding presented no objections; here of course was a long respite, and I was allowed quietly to enjoy the pleasnt anticipation of a good crop. It so happened that my corn was not hid in a corner, but grew in an open field, was subject to the daily inspection of many a passer by, and I was much gratified by the frequent remark, "what a fine piece of corn!" But when the harvesting came, the objector says, "you have done wrong in cutting it up, it is better to top it," and again, "you are entirely too early, it will not harden." The fact is, however, it got thoroughly hard, and brighter or better corn I never saw; it was cut the 20th September, husked and weighed the 10th November. The piece of ground measured one acre and five and a half rods, and yielded eight thousand seven hundred and eleven and a half pounds, (which at 75lbs. the bushel, allowed by the agricultural society,) gave one hundred twelve and a half bushels to the acre; also four heavy two-horse loads of well cured corn stalks, worth more than a ton of the best hay.

Preparation of the ground, manure, &c.—I have a fine lot, containing six acres, lying east, and in full view from my house, slightly undulating and gently sloping, on which two or three years ago, I commenced farming in miniature, on the rotation system, that I might judge of the comparative profit of good systematic culture, (by some laughed at as book knowledge,) compared with a slovenly and parsimonious habit, too often persevered in, and I am so far much pleased with the result; it speaks loud in favor of good hushandry. I am well satis-

fied, too, that you must feed your land if you would be fed yourself. This lot has for many years, (fifty or more, for aught I know,) been undisturbed by the plough, from the erroneous opinion that good grass land should remain for the scythe only. The soil is mostly a warm sandy loam; some part of it, however, is low and wet; this I have overcome by thorough draining. (On this subject I may hereafter have something to say.)

I prepared by deep ploughing last fall, a part of the above lot, carted and spread upon it the 10th of May, 38 loads of long unfermented stable dung to the acre, making five heaps to the load, dropped at five yards distance each way; this, after being carefully spread, was passed over with a heavy roller, and afterwards well harrowed, planted the 15th of May, and ashed as it made its appearance above ground.

Estimate of Expenses, &c.		Dr.
To ploughing with two yoke of cattle, 1½ days, at $3,		$4 50
Rolling and harrowing 1½ days, single team, $2,		3 00
Seed corn,		1 00
Preparing seed corn with tar, &c.		0 25
Planting, 2 days, at $1		2 00
Three hoeings, two days each, at $1		6 00
Horse and man 1½ days, with cultivator, at $1.50		2 25
Cutting and binding two days, at $1,		2 00
Picking and husking 7 days, at $1,		7 00
38 loads manure, at $1,	$38 00	
Carting and spreading, at 25 cents,	9 50	
	$47 50	
Deduct two-thirds for the succeeding crops in the rotation,	31 61	
		15 89
20 bushels ashes, at 12½ cents,		2 50
Spreading 1 day, at $1,		1 00
Interest on land, valued at $150,		9 00
		$56 39
Cr.		
By 62½ bushels corn, at $1.50	$93 75	
50 do. seed do. at $2	100 00	
2 do. soft do. at 50 cents,	1 00	
4 loads stalks,	15 00	
	$209 75	
Deduct expenses,	56 39	
Profit,		$153.36

I have not had experience enough to know which is the most preferable, to plough old sward land in the fall, and spread the manure on the surface the following spring, or to spread the manure in the spring before ploughing, and then turn it in. I think much may depend on the season, in the first practice; if the season should be dry, may not a good deal be dissipated by the winds? and again, if it should be wet, may not the roots reap a greater advantage, than if it lay beneath the turf? I will thank you for your views upon the subject.*

Although I used my own teams, and hire my labor by the month, at 12 to $14, yet in consequence of rainy weather, broken days, &c. I think it but right to charge the fair price of labor by the day, both for man and team. In estimates of this kind, the labor is frequently charged per day at the average of the price per mouth, which makes quite a different result. The estimate of corn, at $1.50, may appear to many overrated, nevertheless it is a fact, that corn of an inferior quality is selling with us at that price. Yours very respectfully,

H. G Bowers.

N. B. Since writing the above, it occurred to me that, although in the preparation of seed corn, tar is recommended chiefly, as a protection against birds, it may also have another very important effect, (thereby saving a replanting in consequence of wet weather,) in providing a coat, impervious to the superabundant water, until the sun shall, by its genial warmth, cause the germ to disengage itself from its confinement.—*Cultivator.*

* *Old* sward, for corn land, is best ploughed in the fall, and if long manure is at command, it may be buried in the operation. It will undergo but a slight if any fermentation before ploughing, and the soil will imbibe what it gives off of nutriment A clover lay is best ploughed early in May, having the manure previously spread. If, in the first, manure is not at command, we would recommend that the plough be set deep, and that the manure be buried in the spring, immediately preceding planting, by a superficial furrow, which shall leave the sod as much as possible undisturbed.—*Conductor.*

Experiments of Various Manures on Potatoes.

The following extracts from "*Dickinson's Agriculture,*" will show that in Great Britain, particular attention has been given to *salt* as a manure. To show its utility as a manure in a more clear point of view, the following experiments were made by the Rev. Mr. Cartwright.

A certain portion of soil (ferruginous sand brought to a due texture by a liberal covering of pond mud) was laid out in beds one yard wide and forty long: of these, 25 were manured, the first excepted, as follows:

No. of Beds.	Kind of Manure applied.	Product of Pota·
1	No manure.	157
2	Salt, ¼ peck	198
3	Lime, one bushel	150
4	Soot, one peck	192
5	Wood ashes, 2 pecks	187
6	Saw dust, 3 bushels	155
7	Malt dust, 2 pecks	184
8	Peat, three bushels	159
9	Decayed leaves, 3 bushels	175
10	Fresh dung, 3 bushels	192
11	Chandler's graves, 9 lbs.	220
12	Salt, lime	167
13	Salt, lime, sulphuric acid	175
14	Salt, lime, peat	183
15	Salt, lime, dung	199
16	Salt, lime, gypsum, peat	201
17	Salt, soot	240
18	Salt, wood ashes	217
19	Salt, saw dust	180
20	Salt, malt dust	189
21	Salt, peat	171
22	Salt, peat, bone dust	178
23	Salt, decayed leaves	187
24	Salt, peat ashes	185
25	Salt, Chandler's graves	185

"The quantity of ingredients the same as when used singly.

On the same day the whole was planted with potatoes a single row in each bed; and that the general experiment might be conducted with all possible accuracy, each bed received the same number of sets.

On the 21st of September, the potatoes were taken up, when the produce of each row was according to the annexed table.

It is observed as being remarkable, that of ten different manures, most of which are of known and acknowledged efficacy, *salt*, a manure hitherto of an ambiguous character, is superior to them all, one only excepted, and that when used in combination with other substances, it is only unsuccessfully applied in union with that one, namely, *Chandler's graves*, no other manure seemingly being injured by it: possibly its deteriorating effects on Chandler's graves may be owing to its antiseptic property, which retards the putrefactive process by which animal substances undergo the changes necessary to qualify them to become the food of plants. This, however, he cannot, from any appearances in the soil when the plants were taken up, assert to have been the case. The extraordinary effects of salt, when combined with soot, he thinks are strikingly singular: there is no reason to suppose these effects were produced by any known chemical agency of soot and salt on each other. Were he to guess at the producing cause, he should conjecture it to be that property of saline substances by which they attract moisture from the atmosphere; for he observed those beds where salt had been used were visibly and palpably moister than the rest, even for weeks after the salt had been applied, and this appearance continued until rain fell, when of course, the distinction ceased. This property of attracting moisture had greater influence possibly, on the soot than on any of the other manures, as soot from its acrid and dry nature may be supposed to require a greater proportion of water to dilute it, than those substances which contain water already. It may be proper to observe, that on those beds where salt had been used, the plants were obviously of a paler green than the rest, though not less luxuriant: a circumstance which he thought worth noticing, and which he considered, though erroneously (as appeared by the event,) to indicate a want of vigor, which would be felt by the crop. It was observable also, that where salt was applied, whether by itself or in combination, the roots were free from that scabbiness which oftentimes infects potatoes, and from which none of the other beds (and there were in the field nearly fifty more than what made part of these experiments) were altogether exempt."—*Farmer & Gardener.*

Buckwheat Straw.

In answer to a question put to us some time since, by "a young Farmer," whether "any use could be made of his buckwheat straw," we replied that it was better for his milch cows than the best timothy hay, that his cows would eat it with equal avidity; that if it had not been too long exposed to the vicissitudes of the weather, it would prove equally nutritious; that so far as the secretion of milk was concerned, it was infinitely preferable to any hay or fodder within our knowledge, & that if cut and boiled it would make most excellent slop for his cows. In a conversation with a gentleman from Virginia a few daps since, we were happy to find our own opinion and experience confirmed by an anecdote which he related. At the time of thrashing out his buckwheat, he was from home, and contrary to his usual practice, which was to cast the straw into the barn-yard amongst the other *litter*, his hands stacked it in a fold-yard, with his other hay and fodder, where it was accessible to a portion of his cattle. On his return home, he found that his stock had made as free use of the buckwheat straw, as with either his hay or fodder, thus establishing the fact that these animals, which should be admitted to be judges of what suits their own appetites, when left to their own choice, had by their selection of this hitherto neglected food, pointed out a new source of economy to the farmer and planter, which too many have not properly appreciated. Buckwheat, as every one knows, can be grown upon almost any soil if planted from the opening of the ground in spring, till the beginning of July, and will not only yield a handsome return of grain, but a full and wholesome supply of as good hay as any agriculturist ever fed his cattle withal.

"Adversity," to use a trite adage, "is the mother of invention," so should the experience of the last few years teach, every one engaged in tilling the earth, to husband every means within his power, and of resorting to every resource within the compass of his ability, to make his stock comfortable, and keep them in a plentiful supply of food during the inclement months of winter. It is the custom of most farmers to sow buckwheat on the poorest spot on the farm, and even when thus treated, often without manure, with no other culture than a ploughing and harrowing, its product is from 20 to 30 bushels to the acre, according to the season. When placed under more advantageous circumstances, on good soil, or land properly manured, it has been known to give a product of from 60 to 70 bushels to the acre. If then, instead of sowing a small patch merely to afford meal enough for the winter supply of those delightful cakes, which add so much to the luxury of the farmer's winter breakfast table, he were to sow from 10 to 20 acres, how much of profit would enure to him? how much wholesome food would he secure for his cows? and how much solid comfort to all and every thing around him? Than buckwheat grain, nothing is eaten more readily by the poultry and the pigs. For the former, it is the best food in winter, largely contributing by the great proportion of lime of which it is composed, to make them lay; for the latter, or for breeding sows, if reduced to meal and boiled into slop, it is at once nourishing and fattening. For sows with young pigs, nothing is more conducive to the secretion of plentiful supplies of milk. And should the straw be cut and steamed, and thus given to milch-cows, it would serve as a substitute for other slops, and would materially increase the quantity as well as the quality of their milk.

Besides the above uses of this article, if sown, early, in the proportion of 2 bushels to the acre, it would bear mowing twice during the season, and would afford most excellent grass for soiling: and beyond all question, there is no green crops that can be turned in with the exception of a clover-ley, tha make so good a dressing for ground for wheat as does buckwheat.

When sown for the grain, from 1 to 1½ bushels to the acre is enough seed.—*Balt. Farmer.*

COMMUNICATIONS.

Better methods of making Turnpikes suggested.

No. VIII.

To complain much of existing evils, and make no attempts to suggest remedies, may perhaps be justly considered as disingenuous. It is indeed in a multitude of instances, much easier to detect errors in practice, than to make good prescriptions. Yet little as we know about the art of making roads, we shall venture to submit some views relative to turnpiking, which are adverse to generally received opinions.

We think that in turnpiking, as well as in making common roads, the practice of ploughing and throwing up should have been practiced only to a much smaller extent than it has been. On dry grounds, grounds presenting no peculiarities in texture or form, it would have been better not to have ploughed and scraped at all. In regard to the central track, intended for chief use, it would in all such cases, have been enough, and better than more, only to have rendered it perfectly smooth, divesting it only of stones, and all other obstructions. In such places it was not necessary to use the plough at all, save only to take off little hillocks, and correct unevenness. Special care should have been taken to render the main track as nearly perfect as possible. The other parts of roads, under the circumstances here supposed, and not presenting insuperable obstacles, should also have been rendered smooth, though perhaps in a less perfect manner, and cleared of all obstructions.

It is believed that if turnpike roads had been constructed in the simple manner here suggested, the roads would have been better, and surely the expense of making them, and we think too of keeping them in repair, would have been much less. That they would have been perfectly good roads, or that they would have approximated to perfection, is not supposed. Perfectly good roads can be constructed only of such materials as will effectually resist the pressure of wheels and the tread of animals. But to construct roads of such materials to any considerable extent in this section of the country, has hitherho been a thing wholly out of question. While therefore we are not pleading for perfection in the construction of roads, we are pleading only for practicable and important improvements.

Our reasoning on the subject is this. The soil of land, or the surface stratum of earth, does in general afford only bad materials for the construction of roads. Although if roads are made in the manner suggested, the soil or surface stratum will remain on the main track, as well as on other parts of the road, yet it will be only one stratum, that which was placed there by nature. This we consider as an evil, and it would perhaps be better to have this stratum of soil removed, and its place supplied with solid earth, containing no vegetable remains. But if this cannot be done, or done at a reasonable expense, the injury, we think, resulting from only *one* stratum of spongy earth, will be less than what would result from two or more strata of such earths thrown together, as has been practiced in turnpiking. The idea of securing roads against damages by water, by giving them an elevated and oval form, ought to be exploded, for it is utterly fallacious.

The advantages to be gained by constructing roads in the manner we suggest, would be as follows: The roads would be better, while the expense of making and keeping them in repair would be much less. The whole area of roads would be fitted for use, and be occupied to no trifling advantage. The inconvenience resulting from side gutters, which are every where present in connexion with turnpikes, would be removed. Side gutters impose on travelers unnecessary and often grievous restrictions, always limiting travel to a narrow space, and confining it almost to one set of tracks. These side gutters, especially when deep and impassable, as in many places they are, are serious evils. There are in many places, chiefly on the sides of hills, not only gutters but deep and dangerous ravines, entirely intercepting communication with other parts of the road, forbiding the traveler to turn to the right hand or to the left, and compelling him to be watchful in driving, on peril of being plunged into a gulph.

Near where we live there are hills, one of which ascends nearly two miles to the east. Here is a turnpike road, in an ascending and descending direction, which has been occupied as such more than thirty years. The ground is of gravelly texture, and uniformly dry. It presents in general a smooth surface, very little broken, except by small cradle knolls. Turnpiking was performed here in its usual style, by throwing up the road and opening side gutters. Traveling, through the whole length of the road, has has been almost uniformly confined to the narrow space thus prepared for that use. There are, all along, side gutters, and in many places deep and dangerous ravines. The depth of these ravines has been annually increasing, it still increases, and no doubt, unless preventives be applied, it will continue to increase, and that to an indefinite extent.

Now the question is, would it not have been incalculably better to have made this road at first in the manner we have suggested? that is, to have smoothed and polished its central parts in a very perfect manner, and without ploughing and throwing up—to have smoothed also, but in a less perfect manner, all the other parts of the road, and removed obstructions. And is there now any other way to make the road good, than to demolish all that has been done, to fill up the gutters and ravines, and render the surface of the whole road smooth? It should be remarked here, that this hill differsin no material points, from hundreds of others on which there are turnpikes, in this section of the country.

D. B.

Marcellus, Onondaga County, February, 1837.

Productions of Cashmir, Thibet, &c.

Mr. Tucker—Observing in your very useful book a short extract from Loudon, respecting the fruits of Cashmir, it occurred that, unless I am greatly mistaken, the original papers on this subject are publish in the Transactions of the Geographical Society of Great Britain. They are from the papers of Mr. William Moorcraft, superintendent of the Hon. Company's stud in India, who some few years ago penetrated through Thibet, Cashmir, &c. as far as Yarkhand and Tashkhand in Independent Tartary, where he died—regions in some points very similar to those we inhabit, with snowy winters and warm summers. His agricultural papers were addressed to the Board of Agriculture. They relate to the culture and manufacture of many interesting articles, the produce of those regions. Short extracts would doubtless be of peculiar interest to your readers—particularly that on the manufacture of shawls in Cashmir, and on the shawl Goat, and on the manufacture of paper from the mulberry tree. Other articles are on the sorts of wheat; of barley or beer; yellow flowering lucern, (which has vegetated in England;) long-ma, a grass, or more properly a carex, with amazingly long roots, fitted to fix blowing sands, and producing an herbage, valued by the Tartars above all other fodder for giving their horses that capacity for enduring long labor for which they are celebrated; a new sort of fruit; [a species of azadirachta?] the Deodar pine; the Thibet apple; the rhubarb plant. Europe is at present supplied with this medicinal substance from some contiguous part of the Chinese dominions—it grows over large tracts of hilly country, covered with snow in winter—Russia, through whose territories the commerce passes, derives a considerable revenue by imposts thereon; an ingenious mode of cultivating the willow for rods and twigs, a large supply of which is obtained by a sort of inarching or bending the stems of two different plants at a proper distance towards each other; but above all, sir, on *Prangos*, a plant likely to prove of the highest interest to the farmer, where the snow lies long on the ground, for it seems to require the frost and snow for its preservation, and has been known to perish partially even among the cold mountains of Dras, in rainy winters when there has been no frost. It is a plant apparently allied to the fennel or caraway, but of gigantic volume, rising many feet and giving a vast yield; being like its compeers, of a pungent taste, it is refused by cattle when green. Its value is as a winter food, for which both in quantity and quality it excels. It lasts many years in the ground—in fact except from the cause above stated, it is not known to decay. What is curious, it is not unlikely that it was introduced from some other region into Thibet. If I recollect, Moorcraft never saw it growing wild, and it was only in a few places that he met with it, and though its renown was every where great, some plantations were quite new. The inquiry remains, where is its *habitat?* It certainly deserves trial in America. Prangos requires a snowy, or at at least a hard winter and a warm summer. Our traveler learned that the Thibetans considered it an incomparable nutriment in winter for *sheep*, and they have the prejudice that the flocks fed on it are exempt from the liver fluke. Moorcraft also describes a remarkably small kind of sheep, scarcely larger than a large lapdog, capable of thriving on a mere modicum of provender, and in summer generally subsisted on the weeds drawn from the drills of wheat by the industrious and thrifty farmer of these somewhat sterile regions.

All these are subjects of practical importance to the interests of North America and could you obtain the work referred to, much valuable information may by your means be diffused.

Cashmir and Thibet, and I believe the neighboring countries, are supplied with oil for the table and the lamp solely by the walnut tree. The mode of throwing it into a state of perfect fruitfulness is very simple. It there comes into a bearing state at about eight years from the shell, and bears abundantly for the next eight years, when it again commences making wood and height. To obtain a full and constant supply of nuts, the ends of the boughs are cut in so as to cause the tree to throw out a quantity of twigs; these are then also pruned and a large crop is the consequence. An annual pruning seems to be requisite, but more detailed notices on this interesting subject may be obtained from the original paper, for I write from memory and am anxious for information. Here then is a source of supply for one of the necessaries of civilized life, and eventually of bringing money to the agriculturist, for which their climate and soil is adapted, as indicated by the sorts of walnuts, natives of our woods.

But above every thing, Moorcraft's papers are valuable for something authentic about the Cashmir shawl Goat. He sent a flock down to Calcutta, and some of them reached Europe. The Duke of Athol has or had several on his estates in the Highlands. They appear also to succeed well in France. Who will have the honor of introducing these most valuable animals to North America? What a source of profit might not thus be opened? The long silky hair, you know, is the substance of those fine India shawls of such costly price. Could you find a corner for these short notices, they may serve to draw the attention of farmers and traders to these probably important subjects, and oblige

A Subscriber.

Upper Canada, 15th Feb. 1837.

Steenkrout.

Mr. Tucker—In wheat growing districts, steenkrout is apt to be troublesome. Where corn, potatoes, &c. are but little cultivated, and where the contents of the barnyard are carted on to the fallow, there is but little probability that it will cease to be so. Nothing is surer to subdue steenkrout than rotary husbandry. I have seen cornhills green with it in the spring, before it was ploughed for oats. It is needless to say that all that vegetates is destroyed with the oat crop, and if wheat follows the land is comparatively clean. I am aware that there is much good wheat land in our state that is unfriendly to Indian corn, and that potatoes cannot enter into the rotation extensively enough to have the desired effect. In such cases it is well to consider if there are not other means to be resorted to. It is well known that seeds of steenkrout will not sprout in the heat of summer, like other weeds. It is not until the fall rains, and the approach of cool weather, that it makes its appearance in any considerable degree, but waits, as it were, to be in company with the young wheat. To illustrate this I will give you the following anecdote: There is in Dutchess county a beautiful farm, once called the Owen farm, which was so overrun with steenkrout, that it was considered spoiled for wheat. This estate was purchased by a sensible New-England man, (but possessed of a little humor,) who was informed by his neighbors that he could not raise wheat on account

of the steenkrout with which his land was overrun. However he ploughed a large fallow and had the next year an elegant crop of wheat. His neighbors expressed their surprise, and wished to know by what power of magic he had overcome so formidable an enemy. Partly by your assistance, he replied, and by a stratagem: I ploughed, harrowed and crossploughed, as is usual; but after ploughing for seed I only harrowed both ways; the steenkrout thought the wheat was sown, but it was not, and up it came all over the field as thick as pepper, and in 17 days was quite green: then with three teams I turned it all under; in a few days sowed the wheat, and the result is before your eyes. But, said they, what assistance had you from us? Why, nothing more than this, you told me what I had to contend with. Now by this story it will be seen that the wheat must have been sown as late as the first or second week in October. This is later than is prudent to sow without some specific object in view, but it is not unusual for wheat to succeed well sown quite late, especially on rich ground. I have known instances of success on land highly manured, and after corn, sown late in November. On the whole I venture to affirm, that all land suitable for corn, may speedily be cleansed from steenkrout or red root, as it is called, by alternating corn, oats, wheat and clover—applying all manures to the corn crop. This I have proved, and what has been done can be done again. I. W.

Lansingburgh, March 4, 1837.

Information Wanted.

In September, 1835, I sowed sixteen acres with wheat, which came up well, and at the commencement of winter was one of the most promising fields I ever saw. In common however with thousands of others, my wheat was entirely smothered by the snow, and apparently killed. As I had as much spring work to do as I could conveniently perform, I left my field of wheat alone, partly in the hope that roots enough would survive to prevent the necessity of ploughing up; but there was evidently not enough on the whole to stock one acre properly, and I ploughed it up and sowed it with oats. They grew heavy, but were as I expected late in ripening, and before gathering were caught in the early snows of the last of September and first of October. I was, in consequence of their being thus crushed to the earth, obliged to mow them all, and large quantities were shelled off in the operation of raking and pitching, enough perhaps to seed the ground twice. These shelled oats were of course left on the ground and before sprouting covered by the snow of winter. I wish to sow this piece of land with barley this spring, and wheat after, but it has occurred to me that these oats, on ploughing the ground, may sprout and grow, and if so the barley would be ruined for sale. What I wish is, to know from some intelligent farmer or skilful theorist, whether these oats thus shelled in the fall, will retain sufficient vitality to grow in the spring, or whether their thus lying on the surface of the earth will effectually prevent their vegetation? A reply to this query through the columns of the Farmer, would much oblige one who feels a pleasure in signing himself

An Agriculturist.

Inquiries.

What beans are the best for market? How should lucern be cultivated? Is it right for the male to go to his own young, and what will be the consequence? How shou'd plumbago be prepared, and how applied, to blacken stoves? Is there any benefit in letting bees fly in warm days in the winter, as the manner of some is? and what will be the consequence of keeping them close in a warm room till they can get their living in the spring? Will cattle and horses eat cut straw and hay without meal or some kind of grain mixed with it, as well as they will the same without cutting? Can Green's straw cutter be had nearer to Syracuse than Lockport? [Of Reynolds and Bateham, Rochester.] What is the relative cost of a cobble stone house, compared with wood and brick? What is the best plough for land clear of stumps and stones? What is the best work on domestic cookery, and where can it be had? Is Mr. Weeks's manual, an easy method of managing bees, yet published? and where can it be had?* If Mr. Tucker, or some other person will answer the above inquiries, it will much oblige a subscriber. A. D.

[* We have seen a second edition of this book advertised in Middlebury, Vt. but do not know that it can be procured in this state.]

STATE AGRICULTURAL CONVENTION.

Friday, February 3.

Mr. Buel, from the committee appointed to report resolutions for the consideration of the Convention, reported in part, the following:

Resolved, That in the opinion of this Convention, agriculture is the great business of the State; that upon its resources and improvements, the merchant, mechanic, manufacturer, and all other members of society, must depend mainly, for subsistence and for wealth; and that upon the intelligence and virtue of those who manage its labors—comprising as they do, the mass of our population—must materially depend our moral and intellectual character as a people:—

That hence it is of primary importance to all, that this great branch of labor should be specially encouraged and honored, and that the agriculturist should himself receive all those mental aids, and that stimulus to industry, which are calculated to make him more prosperous in his business, and more useful to society.

That we are now particularly admonished, by the scarcity and very high price of all the products of agriculture, to put forth our efforts to enlighten its labors and increase its productions;—

That to the Legislature of the state, as the constituted guardians of the public weal, particularly appertains the duty of fostering and improving this primary source of our wealth and happiness;

That from the experience of the past, at home and abroad, this convention are confident, that the patronage of the government may be advantageously extended, and without detriment to the financial operations of its treasury, to this great object;—

1. By so raising the standard of instruction, to the children of agriculture, as to enable them to understand, and to apply to productive labor, the best practices and improvements of the age; and,

2. By imitating the successful examples furnished by other governments, of calling forth the skill, industry and competition of our citizens, by pecuniary rewards and honorary distinctions;—

That influenced by these views, the Convention respectfully recommend to the Legislature to appropriate a permanent fund, the interest of which shall amount to at least *thirty thousand dollars* a year, to encourage the establishment, and to sustain in usefulness, a central, and county agricultural societies, and to promote, generally, the interests of husbandry, under such regulations and restrictions as to them shall seem meet; and that provision be made by law, for introducing into our common schools, such books of elementary science as may be best calculated to accelerate our improvements in the arts of productive labor.

Resolved, That there are many new implements of husbandry, calculated greatly to abridge agricultural labor, and to increase its products and its profits; that there are many also offered for sale, that are unworthy of public patronage; that from the difficulty, in the farmer, of determining, on superficial inspection, the relative merits of such implements, many impositions are sustained, and an injurious want of confidence necessarily exists in those which are eminently useful; that to remedy these evils, and to facilitate the more general introduction of labor-saving implements, it be recommended to the State Agricultural Society, to appoint a board of inspectors to examine, thoroughly to test, and to determine and certify the relative merits of all new farm implements and machinery which may be presented to them for inspection; that said board comprise men of mechanical science, practical machinists, and experienced farmers; that they hold semi-annual meetings for this purpose, and that it be respectfully recommended to the legislature, to provide a rearonable compensation to the members of said board, while necessarily engaged in the duties of their appointment.

Resolved, That this convention recommend the substitution of a money, instead of a labor assessment, for the making and keeping in repair our common roads.

Mr. Veile, of Rensselaer, moved the adoption of the preceding resolutions, and went into a very able argument to show that the objects they proposed were eminently calculated to promote the great ends of free government, and to accelerate our progress in improvement and in wealth.

The resolutions were unanimously adopted, and a copy thereof ordered to be presented to each house of the legislature.

On motion of Mr. Beekman, of Columbia,

Resolved, That Judge Spencer and J. Buel, of Albany, and H. L. Baldwin, of Onondaga, be a committee to collect statistics upon the state of our agriculture, with a view of enlightening the public mind as to the causes which have led to the necessity of importing foreign wheat, rye, barley, oats and hay, for the supply of an agricultural nation.

Resolved, That J. Buel, Prof. Mather and L. C. Ball, be constituted a committee to collect facts in regard to the history and habits of the grain worm, (*tipuli tritici*) to its ravages upon our farm crops, and to the means, if any are known, of preventing its depredations; and that they be requested to report to the next Agricultural Convention.

Resolved, That J. P. Beekman, of Columbia, A. Van Bergen of Greene, J. J. Viele and A. Walsh of Rensselaer, be a committee to inquire whether, in the distribution of public moneys in aid of agriculture, a better mode can be devised, than that of giving it to county agricultural societies, to be awarded in premiums.

On motion of Mr. Ogden, of Yates,

Resolved, That in the opinion of this convention the tariff compromise of 1833, so far as regards the protection it affords to the products of our soil, ought to remain inviolate.

Resolved, That the Secretary forward to each of our representatives in Congress from this state a copy of the preceding resolution.

On motion of Mr. McCullock, of Rensselaer,

Resolved, That in the opinion of this convention, the interests of agriculture would be promoted, and the business intercourse of the country much facilitated, by the establishment of periodical *fairs*—not of exhibition merely, but for the exchange of the ordinary productions of the country; and that the design of a plan, for the introduction into this state of a system, the vast utility of which has been tested in other countries, by the experience of ages, is deserving the consideration of the Legislature, and of the agricultural interests.

Mr. A. Walsh, from the committee appointed to examine Brooks' Silk Spinner and Twister, reported,

That in the absence of Mr. Nott, Messrs. Spencer and Walsh have seen the machine in operation, and critically examined it; and that they are of opinion that it is not only a most ingenious invention, but in their judgment cannot fail of becoming eminently useful. It seems to solve the problem, which has induced great doubt, whether the culture of Silk in the United States would be profitably prosecuted, from the difficulty of good reeling of silk from cocoons, without very considerable manual instruction. The committee is satisfied, that an ingenious female can almost immediately learn to reel on Mr. Brook's machine in a perfect manner.

As the machine has been seen by the convention, the committee forbear to decribe it particularly; but they recommend to the convention a donation to Mr. Brooks, as a small reward for the immense benefits this invention will confer on the silk culturists of this country.

On motion of Mr. Allen, of Erie,

Resolved, That we approve of "*The Farmer's School Book*," by J. Orville Taylor, and that we earnestly recommend its introduction, as a reading class-book, in all our common schools.

Mr. Mather, of the State Geological corps, read the following report:

The Agricultural Convention having requested a statement of some of the advantages which may probably result to the agricultural, and other interests, from the geological survey of the state now in progress, I will proceed to sketch a slight outline.

When we look around upon the surface of our country, we are apt to conclude that the materials forming it, are arranged without any regularity or order; but it is not so. The laborious investiga-

tions of the geologist and mineralogist have demonstrated, that there *is a regular order in which these aggregate masses of strata called formations* are super-imposed upon each other, and this order is never inverted.

Another fact of equal importance is, that certain mineral substances are most constantly associated with each other, and also, that they are found in particular kind of rocks.

The geologist, guided by these facts, in traversing any district of country, knows what mineral substances and rocks will probably be found. He is thus guided in his search for coal, valuable ores, salt, gypsum, limestone, for marbles, for lime and hydraulic cement, and all the various minerals and rocks which can be applied to useful purposes.

Geology thus serves to point out the geographical positions in which particular minerals may be expected, and geological investigations serve to trace out the particular localities, so that the public may reap the benefit.

The geological survey now in progress, has made such developments of our rich and varied mineral resources, as will serve to introduce various new branches of industry, afford new fields for profitable employment and investment of capital, and add a new impulse to the rapidly growing prosperity of the state.

Another important object of the survey will be to undeceive the public mind in relation to the numerous fruitless researches for coal, silver, gold, tin, lead, &c. which are so often sought in the bowels of the earth where there is not even a *probability* that they will be found. Hundreds of our fellow citizens have been duped by the interested motives of a class of ignorant men, who pretend by mineral rods, and other means, to have the power of discovering valuable metals. In these persons, some of our citizens have placed such implicit confidence, that their whole estates have been expended ere they have repented of their credulity. The mining mania along the Hudson is for finding coal, and it is very frequently been announced, that valuable beds had been discovered. In some instances companies have been formed, and explorations made, but every instance which has come under my observation was fruitless, and any well informed or practical geologist would have said at once, on seeing the place, that there was no indications sufficient to justify the expenditure of even a single dollar.

It is believed that in the valley of the Hudson alone, enough had been expended in fruitless mining enterprises to defray the expense of the geological survey.

The landholder and farmer are perhaps more interested in the investigations of geology than any other classes of the community, and it is a matter of great importance to them to estimate correctly, not only the *agricultural value*, but the *mineral wealth* of their lands.

The farmer perhaps may suppose, that geological investigation and science have little to do with agriculture: if so, he is in error. The examination of soils, (which, except the wash from hills, rivers, &c. result from the decomposition of the *subjacent materials*,) is one of the most important of all the economical applications of geology. The applications of geological science have not unfrequently converted barren wastes and stagnant marshes into fruitful fields. Examples have been so numerous that it is deemed unnecessary to mention any in this brief sketch.

In regard to the economical application of geology to the agricultural interests of the first Geological District, I must beg leave to refer to the "Geological Report," which will be published under the authority of the Legislature, as it would be improper for me to mention them before its appearances. In that report, this and other subjects connected with agriculture are discussed more extensively than is practicable, while preparing this hasty article: numerous suggestions have been made in regard to improved methods of cultivation, and new manures and varied application of those now in use have been recommended.

Although our soils now yield millions to our farmers, yet they are capable of much higher cultivation; and our deposites of ores, salt, gypsum, limestones, marbles, granites, peat, marl, &c. productive as they already are, have scarcely begun to yield their rich and productive harvests. Comparatively few of their localities have yet been brought to the view of the public eye.

A knowledge of some of the applications of geology are of the highest importance to the engineer in the construction and location of public works, such as roads, bridges, aqueducts, canals, rail-roads, public edifices, fortifications, breakwaters, &c.

The applications of geology are of so great economical importance to every class of our citizens, that it is not only hoped that such a knowledge of this subject as will be practically useful may be generally diffused through the community, by means of our schools, academies, and colleges; but that a department will be created in the proposed agricultural college or school, in which the applications of chemistry, mineralogy, geology, &c. to agriculture, mining, metallurgy, and the arts, shall be thoroughly and systematically taught.

I have mentioned metallurgy, mining and the arts in connection with the applications of the science, because it is mainly owing to improvements made in them, that agriculture, civilization, and the arts have progressed to their present improved states.

New York has made a more liberal liberal appropriation for the objects of the geological survey than any other state, and if the results be worth any thing to the community, they will be of infinitely more value than the amount expended, and it is probable that the revenues arising from the additional transport on our rail roads and canals, will, in a single year, more than compensate for the whole appropriation.

In preparing this article I have had time only to glance, without much order, at a few of the many important advantages which will result from the geological survey; but it is confidently believed, that if it be carried on with that minuteness of detail, which is necessary to the development of our rich and varied resources, as great an impulse will be given to the general interests of the state as has been by the Erie canal; and New York, in this project, as well as in that, will have the credit of having been guided by the most liberal and enlarged views of state policy, and of having set an example worthy of imitation by others.

On motion of Mr. Baldwin of Onondaga,

Resolved, That the thanks of this convention be tendered to Messrs. Mather and Hall, for their report and that a copy be requested for publication.

On motion of Mr. Allen, of Erie,

Resolved, That Green's Straw Cutter, manufactured by J. D. Shuler, and exhibited in operation to the members of this Convention, be recommended to the farmers of the country, as an article perfect of its kind, and of great economy in feeding farm stock.

The Convention then adjourned to 7 o'clock in the evening.

7 o'clock, P. M. Feb. 4.

On motion of Mr. Allen, of Erie,

Resolved, That the State of New- York, powerful in resources and in enterprise, as she is great in territory and population, is eminently qualified to excel in her agriculture, and in the wealth and intelligence of her husbandmen; and that it is therefore incumbent on her legislature, with the ample means now at their command, to call forth this new source of greatness, by a liberal provision for her agricultural institutions.

Upon this resolution, which was cordially and unanimously adopted, very able speeches were made by Mr. Allen, Mr. Ball of Rensselaer, Mr. Cheever of Albany, Mr. Baldwin of Onondaga, Mr. Shuler of Niagara, Mr. Beekman of Columbia, Mr. Richards of Washington, Mr. Randall of Cortland, &c.

On motion of Mr. Beekman, of Columbia,

Resolved, That the exhibitions made to this convention, of silk fabrics and thread, made from the indigenous mulberry of our country, affords ample evidence that the silk culture is admirably adapted to our soil and climate, and that nature has bountifully supplied us, should foreign resources fail, with an exellent material for its prosecution.

On motion of Mr. Randall, of Cortland,

Resolved, That the several gentlemen who have addressed this convention, be requested to furnish a copy of their remarks to the convention for publication in the Cultivator.

Resolved, That the publishers of newspapers in this state, friendly to agricultural improvement, be respectfully solicited to give publicity to the proceedings of this convention.

On motion of Mr. Viele of Rensselaer,

Resolved, That it be recommended, that an agricultural convention be convened at the City Hotel in Albany, on the first Thursday of February next, at 10 o'clock, A. M.; that the several counties in the state take proper measures to be represented therein, and that the secretaries of this convention cause timely notice thereof to be given in the public papers.

The convention then adjourned *sine die*.

J. W. RICHARDS, *Publishing Sec'y.*

ANNUAL MEETING

Of the New York State Agricultural Society.

At a meeting of the New York State Agricultural Society, held at the Capitol in the city of Albany, February 3, 1837, ARCHIBALD MCINTYRE, President, took the chair.

On motion,

Resolved, That Joel B. Nott, Jesse Buel, Henry Burden, John P. Beekman and Anthony Van Bergen, be constituted a Board of Inspectors, to examine, thoroughly to test, and to determine and certify, the merits of all new farm implements and machinery which may be presented for their examination; and that the members of the said board be requested to meet semi-annually, at such time and place as the chairman should appoint, to examine and test the implements which may be offered for their inspection.

On motion of Mr. Walsh,

Resolved, That a committee of three be appointed to inquire into the necessity and importance of an increased attention to horticulture and the household arts, as intimately connected with the improvement and promotion of agriculture, and that they report at the next annual meeting of the society.

Whereupon, the following persons were appointed to be said committee:—Messrs. Alexander Walsh, John J. Viele, and John Keyes Paige.

On motion of Mr. Beekman,

Resolved, That Jesse Buel, L. Chandler Ball, and W. Aug. S. North, be a committee to collect statistical facts in relation to the culture of the beet and the manufacture of sugar therefrom, and that they report at the next annual meeting of the society.

On motion of Mr. Buel,

Resolved, That Messrs. Ambrose Spencer, John B Duane and John Keyes Paige, be a committee to collect statistical facts in relation to the silk business, and that said committee be requested to report to the society at their next annual meeting; and further, that the said committee make inquiry as to the adaptation of the indigenous mulberry for the production of silk.

On motion,

Resolved, That a committee of five be appointed to nominate suitable persons as officers of the society for the ensuing year.

Whereupon, the following persons were appointed:—Messrs. Allen, Buel, Van Bergen, Baldwin and Randall.

The nominating committee having reported, the society proceeded to the election of officers for the ensuing year, and the following persons were duly elected:—

JOHN P. BEEKMAN, *President*,
ANTHONY VAN BERGEN, *First Vice President*,
W. AUG. S. NORTH, *Second* do.
ARCHIBALD MCINTYRE, *Third* do.
HARVEY BALDWIN, *Fourth* do.
JESSE BUEL, *Corresponding Secretary*,
JOHN KEYES PAIGE, *Recording Secretary*,
CALEB N. BEMENT, *Treasurer*,
JOHN TOWNSEND, ALEXANDER WALSH, JAMES MCNAUGHTON, JESSE BUEL, HENRY D. GROVE, } *Executive Committee*,

On motion of Mr. North,

Resolved, That committees be appointed, whose business it shall be to report at the next annual meeting, the progress of improvement in *Neat Stock*, *Horses*, *Sheep* and *Swine*, together with any information they may be able to obtain, interesting to

the Agricultural interest generally, relating to those subjects.

Whereupon, the following persons were appointed to be said committees:—

On Neat Stock—Messrs. Francis Rotch, John P. Beekman, and W. Aug. S. North.

On Horses—Messrs. Lewis F. Allen, John. C. Stevens and Cadwallader D. Colden.

On Sheep—Messrs. Henry S. Randall, John B. Duane, Henry D. Grove, Caleb N. Bement and Francis Rotch.

On Swine—Messrs. Jesse Buel, John J. Viele and Caleb N. Bement.

On motion of Mr. Shuler,

Resolved, That a committee of three be appointed to report the condition of the several county agricultural societies, to the corresponding secretary as an opportunity may occur.

Whereupon, J. D. Shuler, Henry S. Randall and L. Chandler Ball were appointed said committee.

On motion of Mr. Allen,

Resolved, That the proceedings of this society be published in the three agricultural papers published in this state, and in such other papers as are favorable to the agricultural interests.

On motion,

Resolved, That the executive committee report at the next annual meeting of this society.

The annual address to the society was then delivered, by Prof. James McNaughton.

On motion of Mr. Beekman,

Resolved, That the thanks of the society be presented to Dr. James McNaughton, for his very excellent and instructive address, and that a copy be requested for publication.

On motion of Mr. Allen,

Resolved, That the thanks of this society be tendered to the late president thereof, for the able and satisfactory manner in which he has presided over the same.

The society then adjourned.

Baden Corn.

We have received from H. L. Ellsworth, Esq. of the Patent Office, Washington, a sample of corn, which is stated to produce from four to eight ears on a stalk. This corn was raised by Thomas N. Baden, near Nottingham, Prince George, Md. Mr. Baden began *twenty-three* years ago, to select his seed from stalks bearing two good ears, and he has continued to select from the best and most prolific stalks. For some years he did not discover much improvement; at length the quantity and quality began to improve, and the improvement was then very rapid. The corn is planted five feet apart each way, and two stalks left to grow in a hill; and the product, thus planted, has amounted to 120 bushels on an acre. This variety cannot but be a great acquisition at the south; and it may be so in the north, though we doubt whether it will ripen early enough in this climate. Gen. Porter, of Black Rock, informs us, that he last year raised some, identical, we think, with that we are noticing, which *did* ripen. We intend to publish the letters of Messrs. Ellsworth and Baden in our next, if our limits will permit.

The experiment of Mr. Baden is a strong corroborative proof of the correctness of the opinion of the late Joseph Cooper, that our farm crops may be improved upon the same principle that we improve our farm stock—*by using only the best seed.* Many of our best varieties of grain have originated from a single stalk of superior excellence, saved by the careful farmer. This was the case with the Houpton oat; and we have just purchased a barrel of oats, weighing over forty pounds to the bushel, which have sprung from a single stem, grown in a field of barley, in Oneida. The difference in the varieties of grain, to the farmer, are immense. Had the corn crops of the north, last summer, being wholly of the early Dutton variety, and planted early and upon dry ground, we doubt not it would have added a million of dollars to the value of our farm crops. The subject is one of great interest to the community, as well as to individuals, and every intelligent farmer should endeavor to improve both his vegetables and animals, by propagating only from superior samples. We cannot but notice the coincidence in the experiment of Mr. Baden, and that of Van Mons, in obtaining new varieties of the pear, and the *perseverance* in efforts to improve, which both suggest. Mr. Baden perceived no great improvement *till after several years.* Dr. Van Mons, in his efforts to the obtain improved varieties of the pear from seeds, did not expect success *before he reached the sixth generation of seedlings.* They both *did* succeed.

While we thus urge farmers to endeavor to improve their animal and vegetable products, by propagating only from the best, they are to bear in mind, that the ultimate product and profits of both, will depend in a great measure upon the manner in which they are fed and tended. Neither a short-horn cow, nor a Leicester sheep, nor a Berkshire pig, will fatten without food. Their intrinsic value consists in making a greater return of meat, when well fed, from a given quantity of food, than is made by inferior breeds. So with crops. The Dutton and the Baden corn will neither of them give one hundred and twenty bushels to the acre, unless the soil is rich, and the crop well tended. Manure feeds and makes the corn, as the forage feeds the animal and makes the meat. Neither the animal nor the vegetable can manufacture forage and dung into meat and grain, unless it is placed within their reach. The Dutton and Baden corn, like the improved animals, are valuable for the economy with which they convert food into solid grain, and the former, also, for its early repening.—*Cult.*

Items.

All manure intended for your corn or other crops, should now be hauled out *in place*, so as to be ready for use when required; much time, always precious at planting seasons, may be thus saved—deposite it in *bulk* convenient to the field, or on the very verge of it, where it is to be used.

Every farmer who has a few acres to spare for such purpose, should devote it to patches of the Palma Christi and Sun-flower. The first is in great request for making Castor Oil, and the latter for expressing table and lamp oil, and both bring good prices.

WILLIAM ATKINSON, *LAND AGENT*, 17 Exchange-street, Rochester. ☞ Farms for sale.
march 4 6m

White Italian Mulberry Seed.

A FEW pounds White Mulberry Seed, warranted of the growth of 1836; for sale at the Rochester Seed Store. As the supply this year is inadequate to the demand, persons wishing to purchase will do well to improve this opportunity.
march 4 REYNOLDS & BATEHAM.

Superior Garden and Agricultural Seeds.

THE subscriber has now on hand a full supply of Garden and Field Seeds, growth of 1836, among which are all the finest Cabbages, Cauliflowers, Brocolie, Radishes, Peas, &c. that are cultivated in England, France and Holland, together with every sort that can be raised to advantage in our own country, and which are grown expressly for my use, from stock furnished and raised by the most experienced gardeners in this country: in short every article emanating from my store, warranted genuine and fresh.

Also, Skinless Oats, Potato Oats, 44lb. weight to the bushel, Perennial Rye Grass, White Clover, Lucerne or French Clover, Orchard Grass, Herds Grass, White Mulberry and Yellow Locust Seeds, Spring Tares or Vetches, genuine Mangel Wurtzel, Ruta Baga and Field Turnep Seeds, well worth the attention of Farmers.

Wholesale dealers supplied on accommodating terms. Price lists, by the pound and bushel, furnished on application, as also catalogues of my whole collection, gratis.

Flower roots, bulb grasses, green house plants, the best books on gardening, &c. at various prices, bird seed of every sort, pearl barley, oatmeal, embden grots for gruel, split peas, white and brown mustard seed, garden flower pots and garden tools, russian bass mats.

The Flower Seed department embraces the choicest variety to be found in this country, in which are included choice double dahlia seed, carnation and choice pinks, German and China asters, splendid double balsams, with an addition of several new varieties, accompanied with a printed direction for culsure and management.

Orders will be punctually attended to, and carefully packed and forwarded as directed. But as the collection of distant debts is often troublesome, and somstimes impracticable, it is desired that satisfactory references be made to persons in Albany, when the order is not accompanied with the money.

SEED CORN—The subscriber has a quantity of the celebrated 12 rowed Dutton Corn, raised by J. Buel. The advantages of raising this corn are its prolific qualities, being easily made to yield from 70 to 80 bushels to the acre, and its early maturity, ripening in about 100 days from time of planting.

W. THORBURN,
feb 18 No. 317 N. Market-st. Albany.

Choice Seeds for Farmers.

NEW French white Sugar Beet, *imported.*
Mangel Wurtzel, or Field Beet.
English purple Top Ruta Baga.
Large Orange Carrot, *for stock.*
White Dutch Clover, perennial Rye Grass, Lucern, Trifoil, Skinless Oats, Broom Corn, &c. &c. For sale at the Rochester Seed Store No. 5 Arcade Hall, by
feb 25 REYNOLDS & BATEHAM.

KEDIE & HOUGHTON, Importers of English Field and Garden Seeds, beg to apprize the public that they will offer for sale this month the largest importation of the choicest and best varieties of every kind of Garden and Field Seeds ever offered to the public in Western New-York, all of which have been selected from the most eminent growers in the Old Country, (and of the growth of 1836,) which, together with a large assortment of Seeds of American growth, they confidently submit to the public as being unequalled by any ever offered in any part of the United States, and by adhering to a strict determination of offering no other seeds but the vitality of which shall have been tested, they solicit a share of the public patronage.

K. & H. deem it necessary to state, that Mr. Kedie's intimate connection in England with most of the practical and scientific agriculturists, horticulturists and botanists, with whom he has passed all the former part of his life, gives him an advantage in his selection of seeds for the public good, not surpassed by any other establishment in the Union.

No 6 Buffalo-street, west corner store of the Eagle Block.
Catalogues to be had at the store.
The highest price paid in cash for Grass Seed.
Rochester, Feb. 7, 1837. feb 25

Rochester Seed Store—1837.—No. 5 Arcade Hall.

REYNOLDS & BATEHAM having made their arrangements for the season, would inform the public that they are now prepared to execute orders for all kinds of SEEDS, at short notice.

They have just received from one of the most respectable dealers in London, a large supply of English seeds, which were shipped to their order last fall, of the growth of 1836—which, together with their assortment of American growth, renders their present stock the most extensive and complete ever offered in this country. Their experience in the business in this place, and their extensive acquaintence with seed growers and dealers, enables them to obtain the greatest variety of seeds, from the best sources, and on the most favorable terms; as well as to select such as are best adapted to the soil and climate of this country.

Wishing to sustain the reputation of the ROCHESTER SEED STORE, the proprietors are determined to sell only such articles, and at such prices, as will give general satisfaction, and ensure a continuation of the liberal patronage they have hitherto received.

Merchants and others supplied with seeds at wholesale, by weight, or in boxes for retailing, at a liberal discount. Catalogues may be had at the store gratis, or sent by mail if desired. REYNOLDS & BATEHAM.
feb 18

Chinese Mulberries, &c.

THE SUBSCRIBERS HAVE STILL ON HAND THE FOLLOWING:

30,000 Morus multicaulis, the wood of which is fully matured, there having been no premature frosts on Long Island this season. Also, 50,000 cuttings can be supplied.

20,000 Ingrafted Trees, of the new Chinese Mulberry, with large thick leaves, remarkable for the quantity of nutritious matter; this species being sufficiently hardy for the most northern latitudes, and possessing all the advantages of the Morus multicaulis. These are from 3 to 6 feet in height.

30,000 Hybrid Morus multicaulis, with large leaves and close joints, 5 to 6 feet in height.

35,000 Florence Mulberry, with entire leaves, in which point they differ from the common white Mulberry. These are imported direct from the best silk district of France, are from 1 1-2 to 2 1-2 feet in height, and will be sold at very low rates.

60lbs. White Italian Mulberry Seed.

Priced catalogues of Trees, Green House Plants, Dahlias, Garden Seeds, &c. will be sent to every applicant.

WM. PRINCE & SONS.
feb 18 3t Linnæan Garden and Nurseries, Flushing.

Morus multicaulis Seed.

THE undersigned offers for sale the seed of the genuine Morus multicaulis, imported direct from France by Smith & Sons, New-York, and warranted to be the growth of 1836. Said seed is put up in half ounce papers, and will be sent per mail, free of charge, to any part of the U. S. on the receipt of $3 for one, or $5 for two papers. Notes of all solvent banks received in payment. This seed is warranted to produce the genuine Chinese variety, and the money in all cases will be refunded on satisfactory proof to the contrary. Short directions furnished to each order, for cultivators.

SETH WHALEN, P. M.
feb 25 5t Whalen's Store, N. Y.

Morus Multicaulis.

JOSEPH DAVENPORT offers for sale 50,000 plants of the true Chinese Mulberry, or Morus multicaulis. Trees will be carefully packed and forwarded as early as desired. Orders must be sent to Colerain, Mass. till the 15th of March: after which time to Hartford, Ct. All inquiries will be attended to at his plantation, 5 miles south-west of the city. Early orders only will be supplied, as arrangements will be made to use all not called for soon.

Colerain, Jan. 23, 1837.

Equivocal Generation.

However ridiculous it may now appear, yet there was a time when philosophers believed the material elements possessed the chemical power of producing vegetables without comforming to the ordinary laws of generation. The exertion of this extraordinary power, on account of the uncertainty attending its results, was very appropriately termed equivocal generation; but we should think its absurdity had been long enough exposed to prevent its imposing upon the most credulous and unthinking. But opposed as it is by all the laws of nature, so far as they are manifested by known analogy, it occasionally attempts to force itself upon our understanding, through the medium of some anomalous production—and there are men, even at the present enlightened day, who, if they cannot explain the phenomena of nature, will adopt an inconsistent doctrine, rather than admit the loss of facts sufficient to establish a theory consistent with its known economy. Among this class of theorists we should expect to find a writer in a late Genesee Farmer, who, from the fact that chess was found growing in a field where it was not known to have been sown, and upon stalks of wheat, the heads of which had been bitten off by a horse, infers that wheat is converted into chess by some unknown process of nature.

Before we can consent to become converts to the doctrine of equivocal generation, the writer must furnish more conclusive evidence—for cases of the kind vastly stronger have presented themselves and been fully explained. The theory of the late President Dwight on these apparent cases of equivocal generation is simple, rational, and, in our mind, satisfactory. He says—"The seeds of vegetables, when lodged beneath their stratum of earth, within which they germinate, have no apparent tendency to decay; but continue to possess all their vegetative power through an indefinite number of centuries. When the existing forest is cut down, and its seeds are destroyed by cultivation, those, which were shed by a more ancient growth, being thrown up by the plough within the limits of this stratum, spring in their turn, and cover the surface with trees of a new kind."

In support of this theory he cites the following cases, which, among others, were within his knowledge. "A field about five miles from Northampton on an eminence called Rail Hill, was cultivated about a century ago. The native growth here, and in all the surrounding region, was wholly oak, chestnut, &c. As the field belonged to my grandfather, I had the best opportunity of learning its history. It contained about five acres, in the form of an irregular parallelogram. As the savages rendered the cultivation dangerous, it was given up. On this ground there sprung up a grove of white pines, covering the field, and retaining its figure exactly. So far as I remember; there was not in it a single oak or chesnut tree. Pines were as thick as they could conveniently grow; and when I first saw them, about the year 1760, had attained a considerable size. When I last saw them, more than 20 years afterwards, they were large trees; yet there was not a single pine, whose seeds were, or, probably, had for ages been, sufficiently near to have been planted on the spot. The facts, that these white pines covered this field exactly, so as to preserve both its extent and figure, and that there were none in the neighborhood, are decisive proofs that cultivation brought up the seeds of a former forest within the limits of vegetation, and gave them an opportunity to germinate. The regularity and limits of the processes are entirely inconsistent with the doctrine of equivocal generation.

A respectable farmer in Guilford informed me, some years since, that thirty years before the event, to which I principally refer in this paragraph, took place, his father, while reaping a field of wheat, found a quantity of chess, which he directed the laborers to reap also, and bind in bundles to be carried home for fodder. On the day, when the wheat was carried home, it was inconvenient to carry the chess; it was, therefore, thrown together upon a bank, or headland. The following night it was drenched with rain, and finally left to rot upon the place. Thirty years after this fact, the field having come by his father's death into the possession of my informant it became necessary to make a new fence between that and another bordering upon it; but as a considerable number of bushes had grown up upon the head land, on both sides, he concluded to remove the fence, and break up these head lands. The ground was accordingly cleared and ploughed, and on the spot, where the chess had been thrown, there sprung up a new crop of chess, as evenly spread, as if it had been sown by a skilful hand.

The Hon. Judge Reeve of Litchfield, told me some years ago, that a farmer of his acquaintance, having sown some turneps, and suffered some of them to remain on a field, they produced seed, the following year, which was scattered on the ground. For twenty-five years afterwards, i. e. to the time when the fact was mentioned to me, whenever this field was ploughed, turneps in considerable numbers sprung up in this spot.

Mr. Parker, an English gentlemen from Yorkshire, who came some years since, to the United States as the Agent from the merchants of England to the government of this country, informed me, that a tract of marshy ground on the eastern shore of England had, some years before, been purchased by several gentlemen, and drained. On the earth, which was thrown out of the ditches, cut through it, there sprung up a great quantity of white mustard. As this plant had not been known to grow any where in the vicinity, within the remembrance of any living man, its appearance excited much curiosity. After many schemes to account for it, had been prepared, and rejected, it was found that, two hundred years before, white mustard had been extensively cultivated on the same spot, by a colony of Dutch settlers.

I will conclude these observations by mentioning a remarkable fact communicated to me by the Hon. Judge Chipman of Vermont. This gentleman told me, that when he resided at Kingston, in the county of Addison, there customarily sprung up in the cultivated fields, on his estate, an immense multitude of cherry trees, of a peculiar species. The original forest had been composed of beach, maple, hemlock, &c., and appeared as ancient as any American forest whatever. It was perfectly destitute of cherry trees. As he was walking in a field, newly broken up, and recently ploughed, he observed the infant stems of these cherry trees sprung up in very great numbers. His workman, who believed in the doctine of equivocal generation, triumphantly asked him whence he supposed these trees to proceed? Without answering the question, he forced his hand a little distance into the earth, and drew up a handful of cherry-stones."—*Silk. Cult.*

Burning Surface Soil and Clay.—The following simple and cheap process of burning surface soil and clay, and thus adding to your quantity of calcareous manures and increasing your ability to improve your lands, is very strongly recommended by that eminent English agriculturist, Mr. Curwen. Those living remote from large cities, whence supplies of ashes are usually drawn, and in the neighborhood of lime regions, could in this way, at a very trifling expense obtain ample resources for top dressing their meadows, corn fields, grain fields, and greatly multiply their ability for raising turneps and root crops generally.

Mounds of seven yards in length, and three and a half in breadth, are kindled with seventy two bushels of lime. First a layer of dry sods or parings, on which one half of the lime is spread, mixing sods with it, then a covering of 8 inches of sods, on which the other half of the lime is spread, and covered a foot thick; the height of the mound being about a yard.

In 24 hours it will take fire. The lime should be immediately from the kiln. It is better to suffer it to ignite itself than to effect it by the operation of water. When the fire is fairly kindled, fresh sods must be applied. It is best to obtain a considerable quantity of ashes before any quantity of clay is put upon upon the mounds. The fire naturally rises to the top. It takes less time, and does more work to draw down the ashes from the top, and not to suffer it to rise above six feet. The lime is supposed to add full its worth to the quality of the ashes. Where limestone can be had it would be advisable to burn a small quantity in the mounds, as it would be a great improvement to the ashes, and at the same time help to keep the fire in.—*Balt. Farmer.*

Policy of destroying Weeds.—There is so much true philosophy, so much sound practical sense, in the following extract from one of Sir Humphrey Davy's lectures, that we cannot omit copying it.

"In all lands, whether arable or pasture, *weeds* of every description should be rooted out *before* the seed is ripe; and if they are suffered to remain in hedge rows, they should be cut when in flower, or before, & made into heaps for manure; in this case they will furnish more nutritive matter in their decomposition; and their increase by dispersion of seeds will be prevented. The farmer who suffers weeds to remain till their ripe seed are shed, and scattered by the winds, is not only hostile to his own interests, but is likewise an enemy to the public: a few *thistles* will stock a whole farm; and by the light down which is attached to their seeds, they may be distributed over the whole country. Nature has provided such ample resources for the continuance of even the meanest vegetable tribes, that it is very difficult to ensure the destruction of such as are hostile to the agriculturist, even with every precaution; seeds excluded from the air, will remain for years inactive in the soil, and yet germinate under favorable circumstances; and the different plants, the seeds of which like those of the *thistle* and *dandelion*, are furnished with beards or wings, may be brought from an immense distance. The *fleabane* of Canada has only lately been found in Europe; and Linnæus supposes that it has been transported from America by the light downy plumes by which the seed is provided.

Method of Burning Lime Without Kilns.—The practice of lime-burners in Wales was formerly to burn their lime in kilns, made broad and shallow, but lately they have begun to manufacture that article without any kilns at all.

They place the limestone in large bodies, the stones not being broken small, and calcine these heaps in the same way used for preparing charcoal. To prevent the flame from bursting out at the tops and sides of these heaps, turfs and earth are placed against them, and the aperture partially closed; the heat is thus regulated and transferred through the whole mass, and notwithstanding the increased size of the sones, the whole becomes thoroughly calcined. As a proof of the superior advantage that lime burnt in these clumps has over lime burnt in the old method, a preference is always given to that burned in heaps.—This practice also prevails in England and Scotland.—*Balt. Farmer.*

Inflammation of the Throat Cured by Alum.—Powdered alum applied by the finger to the part affected, very seldom fails to cure inflammation of the throat in a few days. The efficacy of this remedy, says the author is as marvellous as it is rapid. Employed the first, second, third or fourth day, while there is yet no abscess in the tonsils, it arrests all symptoms, as it were by enchantment; the fever abates, the swelling diminishes, the appetite returns, and the convalescence is quickly decided and completed. Alum has already been in use for certain disorders of the throat; in malignant inflammations, for example, then in chronic; but as the greater number of practitioners remained fixed in opinion that it must be dangerous in common inflammations, its use was not so extensive as it deserved to be. By showing that this remedy is as powerful in simple inflammation as in inflammation of the tonsils, M. Valpeau hopes that practitioners will no longer hesitate to make proof of its efficacy, and rescue thereby hundreds of human beings from the grave. —*London Paper.*

Painting on Glass.—It is stated that M. Stalars, a young artist at Lisle, in France, has discovered in some ancient manuscripts directions for painting on glass; which reveals the secret of this art as practiced in ancient times, and so long lost. He tried the method, with results which it is said are highly satisfactory.

A method of preventing iron and steel from rusting after being newly ground.—A blacksmith who was formerly engaged in the manufacture of sickles, says, that the method he adopted to prevent his sickles from rusting after grinding, was to immerse them, for an hour, in water strongly impregnated with lime. This had the desired effect.